

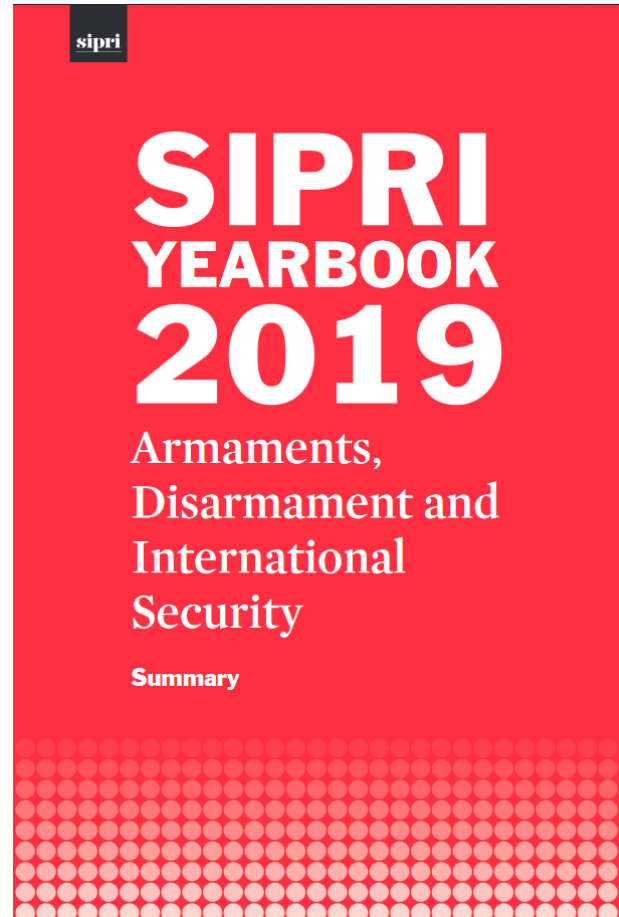


One World in Arms Threats – Where and for Whom

Presentation within the **Development Policy XXXIV** lecture series

Berlin, 29.10.2019

Dr. Niklas Schörnig



Friedensgutachten:

Forward towards the Past!

SIPRI:

“The trends revealed in recent yearbooks have been broadly negative.”

The Lack of Official Data

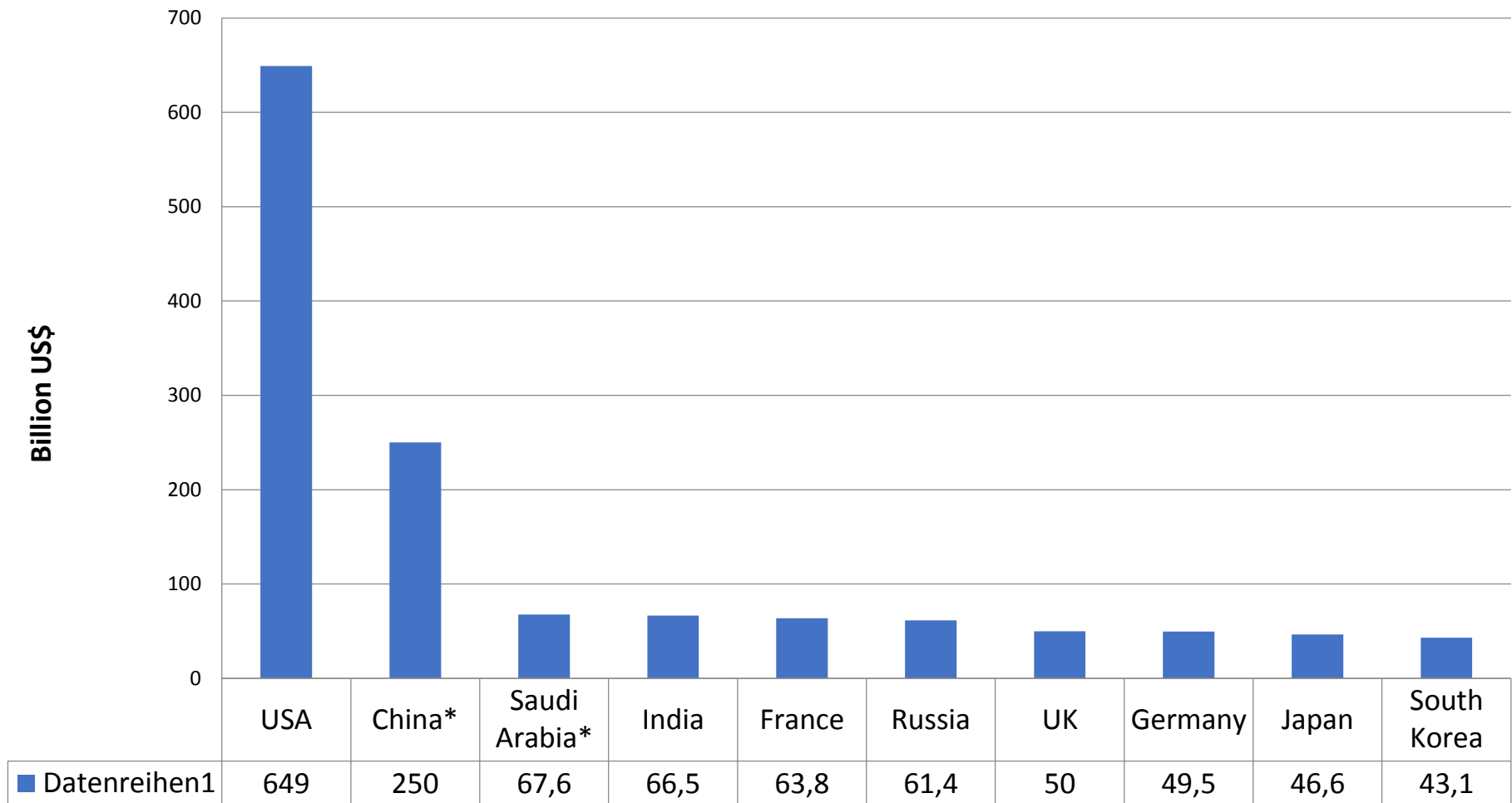
“The **decline** in responses to the United Nations Report on Military Expenditures continued in 2018. Having peaked at **81 responses in 2002**, in **2018 only 36 of the 193 UN member states** submitted a report on their military expenditure”

Macro Perspective

Military Expenditure Worldwide 2018

- Approx. **1822 billion** US\$ (1.8 trillion)
- **2.1%** of world **GDP**
- **239 US\$** per capita

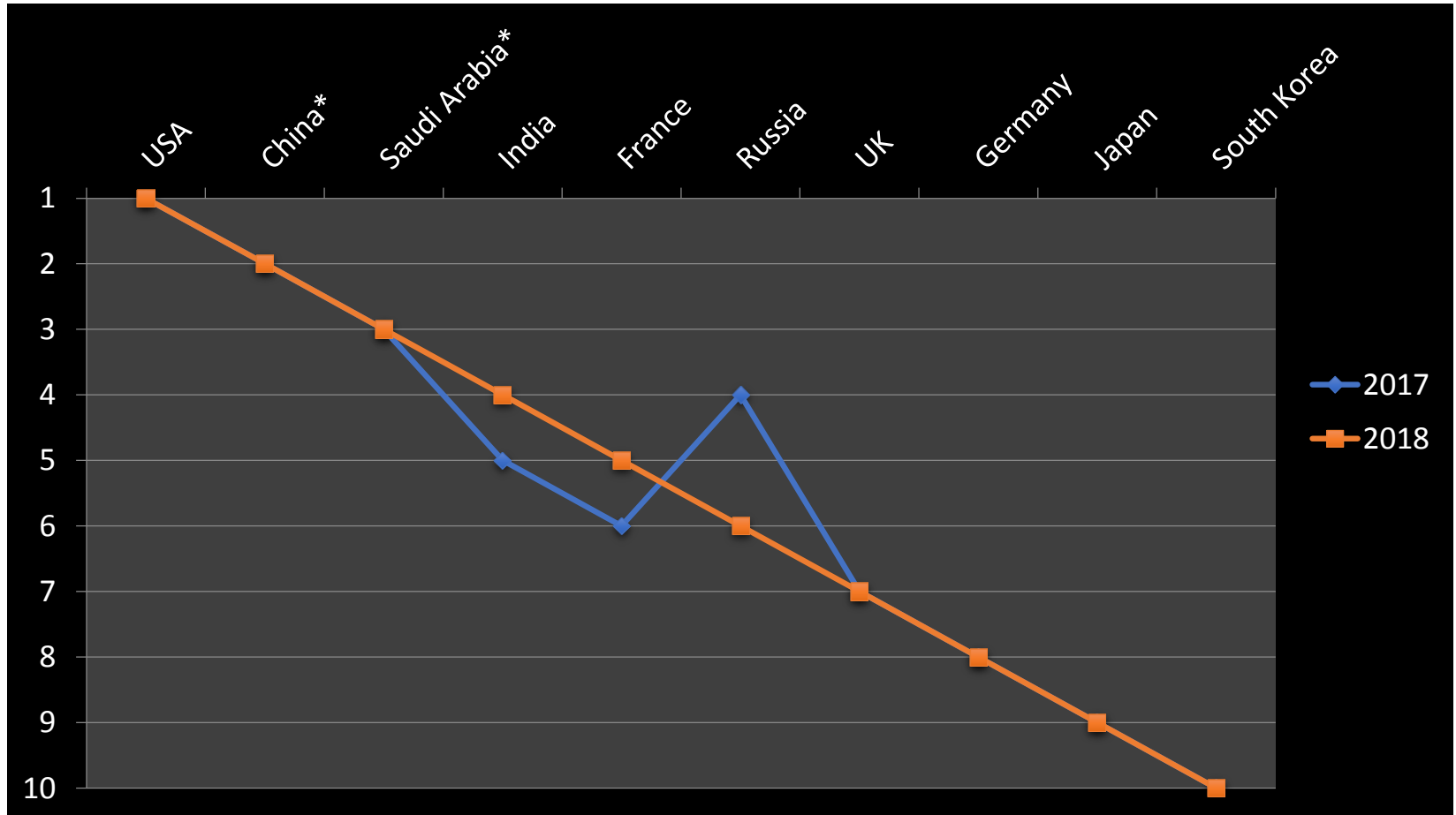
Military Expenditure by Country, 2018 – Top Ten



* = estimates

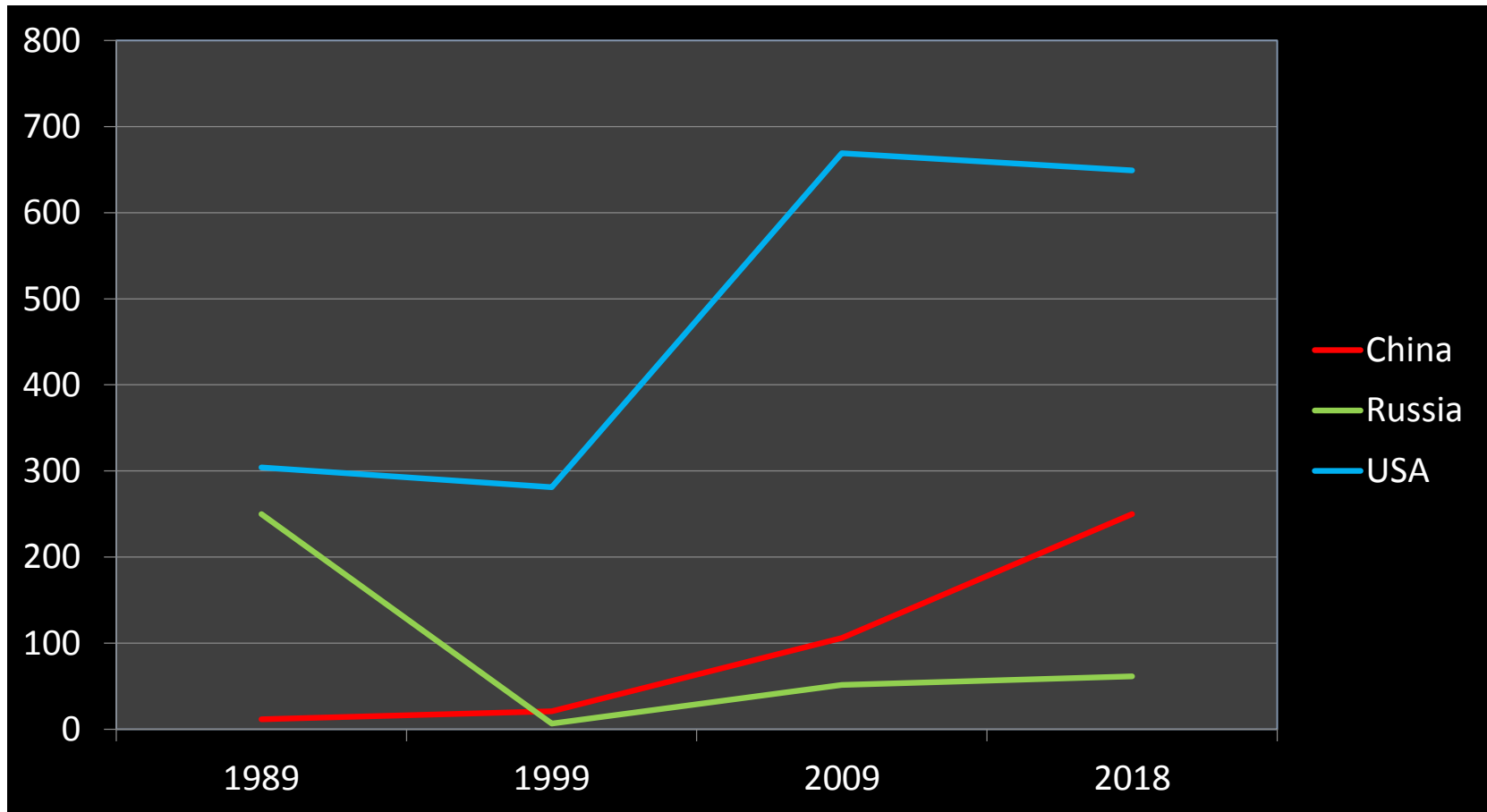
Source: SIPRI Yearbook 2019

Changes Between 2017 and 2018



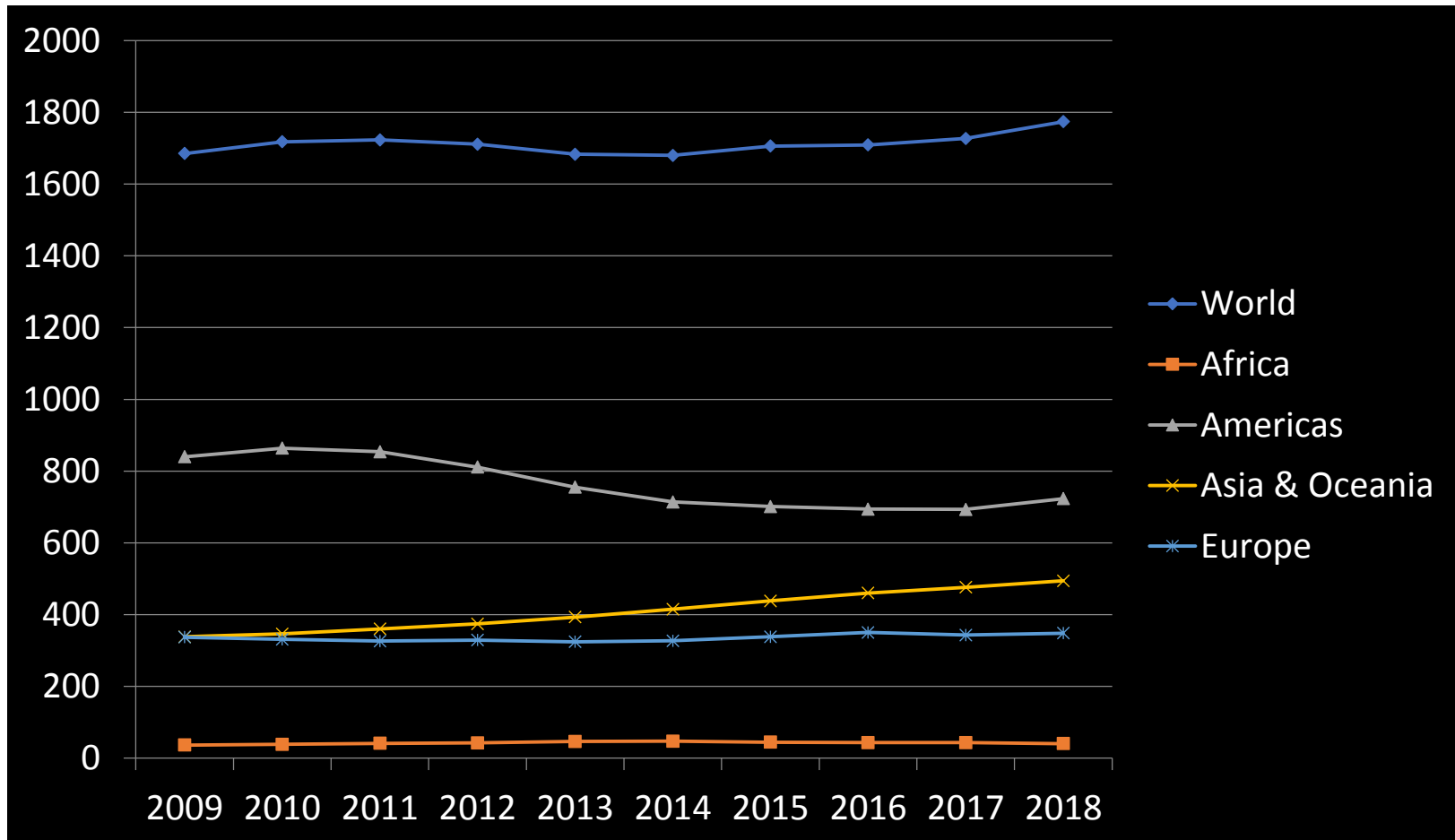
Source: SIPRI Yearbook 2019

Military Expenditure Over Time (current US\$ b.)



Source: SIPRI Yearbook 2019

Mil. Expenditure by Region (2017 prices)

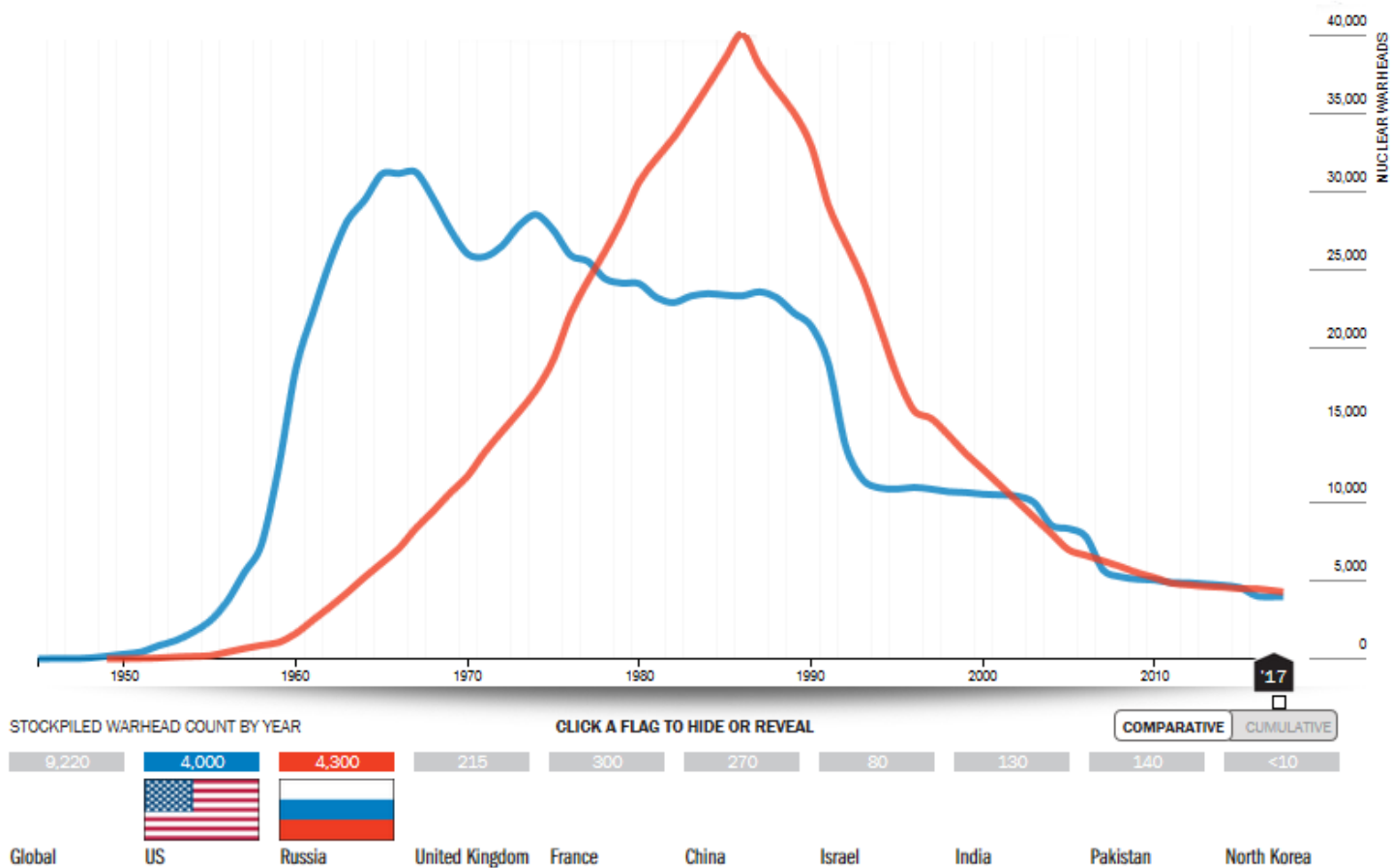


Source: SIPRI Yearbook 2019

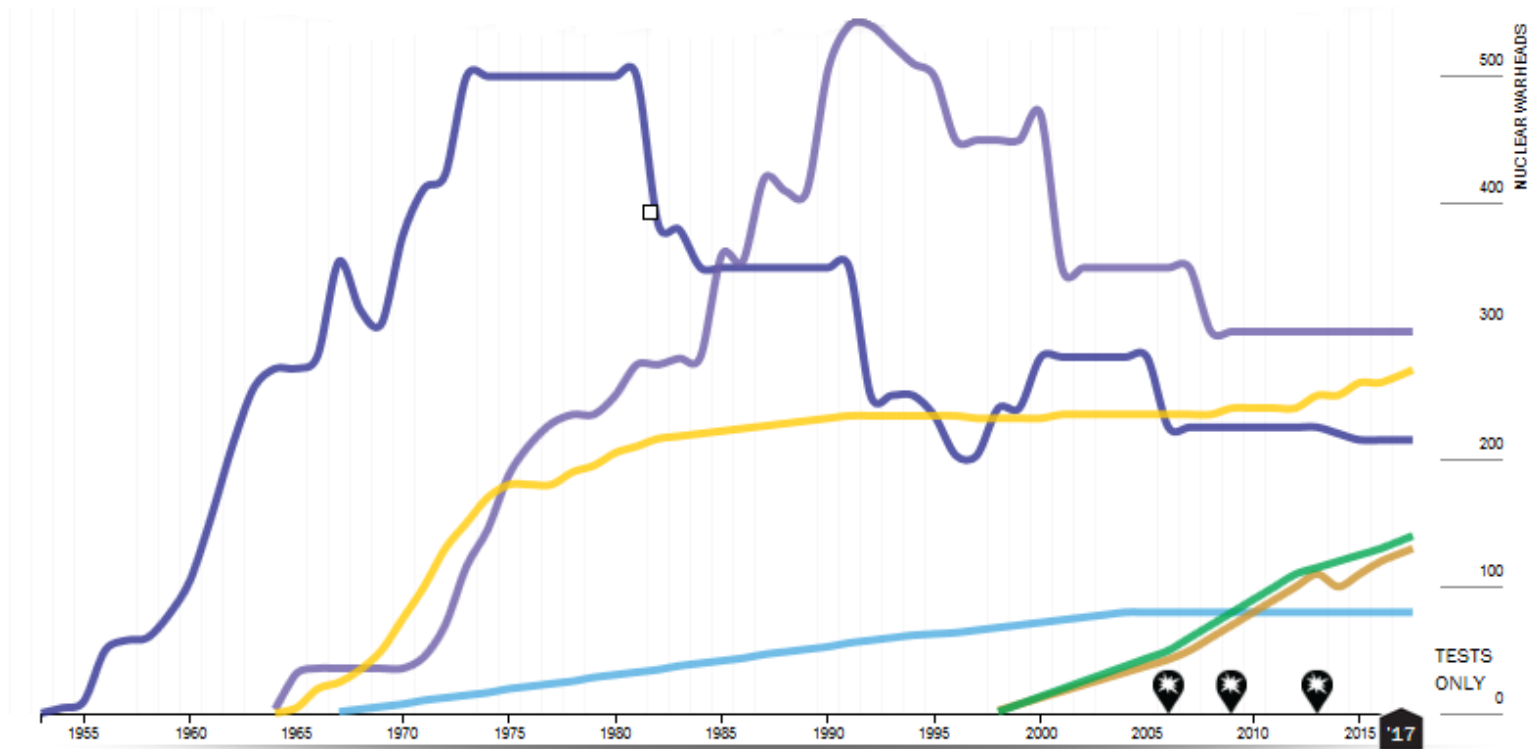
CURRENT TRENDS I

New Developments in the Nuclear Field

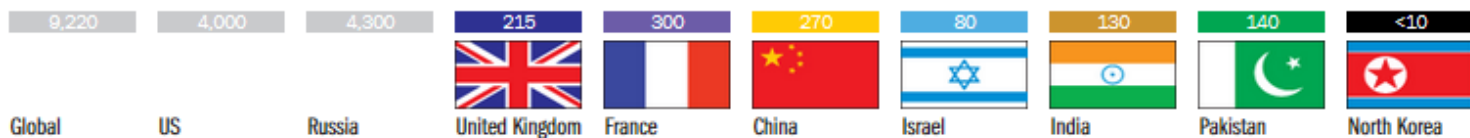
Nuclear Weapon Arsenals I: RU & USA



Nuclear Weapon Arsenals II: Everyone Else



STOCKPILED WARHEAD COUNT BY YEAR



CLICK A FLAG TO HIDE OR REVEAL

COMPARATIVE CUMULATIVE

Source: *The Bulletin of the Atomic Scientists' Nuclear Notebook*, written by Hans M. Kristensen and Robert S. Norris, *Federation of American Scientists*

China: The Inconsistent Nuclear Power

- Only NWS with official **“no first use” doctrine**
- Keeps warheads and delivery vehicles separated, **minimal deterrence**

- Ca. 280 nuclear warheads → but rising!
- Constant modernization

- Points towards US and RU arsenals
- Verbal support for disarmament treaty ...
- ... but no support for the **Treaty on the Prohibition of Nuclear Weapons**

“... [China’s] true commitment to nuclear disarmament remains in serious doubt”

(<https://www.icanw.org/why-a-ban/positions/>)



CURRENT TRENDS II

Drones on the Battlefields – and Beyond

"Every second of every day, 58 Predator-series aircraft are airborne worldwide"

Representative of General Atomics, Nov. 2011



Proliferation: Countries Possessing Military Drones

At least 30 countries have/are striving for armed drones



8 countries have used armed drones so far

= 76

**CIA 11/2013:
87 states**

**Today:
96 states**

Source: US Government Accountability Office Report 12-536, 2012

Driving Factors Behind Proliferation

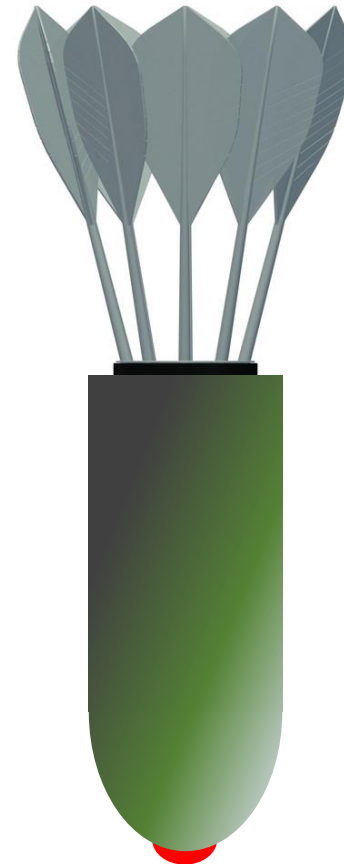
MQ-9 "Reaper"	
<small>Herkunftsland</small> USA	Preis ≈30 Mio US\$ (+/-)
<small>Handelsklasse</small> 1A	
<small>Grundpreis je kg</small>	



Pterodactyl I
(Wing Loong)
≈1 Mio US\$

Drones and Non-State Actors

- Hesbollah
- Hamas
- Houthi
- ISIS



Drones as Terror Weapons

- More and more **drone sightings** near airports
 - Gatwick: 12/18
 - Heathrow: 4/19
 - FRA: 5/19
 - DFS: in 2018 158 sightings
- **Live video feeds** from attacks
- Actual attacks (not yet)

- Hard to defend



Source: Niklas Schörnig

CURRENT TRENDS III

The Robotic Revolution

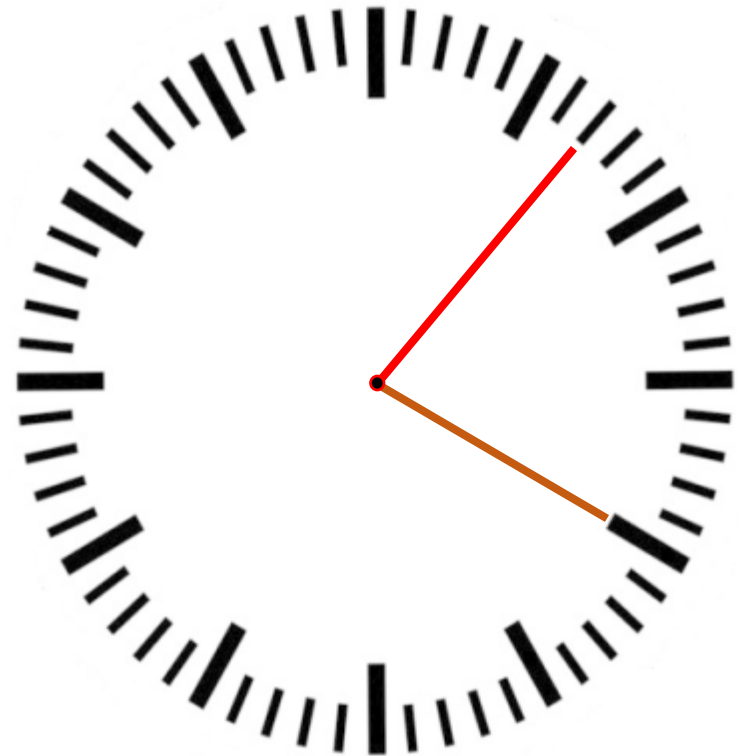
The Battlefield of the Future

- // Time a unit can stay static on the battlefield without being attacked:

7 minutes

- // Time a unit can move on the battlefield without being attacked:

20 minutes



The Trend Towards Autonomous Weapon Systems

- slow, **remotely piloted**, not stealthy, low payload
- fast, (semi-)autonomous, stealthy, high payload
- uncontested airspace only
- contested airspace
- infantry support: close air support /targeted killings
- full mission spectrum
- **asymmetric scenarios**
- **symmetric conflict**

Defining an Autonomous Weapon System

- Pentagon Directive 3000.09 (November 2012):

“[a] weapon system that ... can **select** and **engage targets without further intervention by a human operator**. This includes human-supervised autonomous weapon ...”

- Up to now: **only defensive systems** in use
- No **Lethal Autonomous Weapon Systems (LAWS)** in use - yet

Source: US Navy/Wikipedia

The State of the Art (six years ago)...

July 11, 2013:
autonomous landing of a X-47B demonstrator on CVN USS George H.W. Bush

Only First World Problems?

- Cheap drone technology already **proliferating**
- “Autonomy” soon to follow
- Emerging technology as a **game changer**?

- Who will “**benefit**”?
- Potential of “**leapfrogging**” for smaller states

- Impact on **international or regional balances**?
- Wars to challenge existing order?

- **One world in NEW arms?**

Summary

- **Trend towards armament** rather than disarmament & **more players**
→ potentially **destabilizing**

- **New military technologies emerging**
- **Potential impact on**
 - international relations and “**classical**” **warfare**
 - new forms of **state-sponsored violence**
 - capabilities of **violence-using non-state actors**
- **Acceleration** of Warfare
- Threat to whom? To **everybody**
→ **North/South or State/Non-State divide does not apply anymore**

Thank you!

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